



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

# NOTICE OF ALLOWANCE AND ISSUE FEE DUE

TM01/1211

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/127,584	07/31/98	033	SERGEANT, D	2122 12/11/00
First Named Applicant	RAYNAUD, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION METHOD AND APPARATUS FOR GATE-LEVEL SIMULATION OF SYNTHESIZED REGISTER TRANSFER LEVEL DESIGNS WITH SOURCE-LEVEL DEBUGGING

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
0	02282.P055	703-015.000	W18 UTILITY	NO	\$1240.00	03/12/01

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

## HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.  
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number.  
Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

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# Notice of Allowability

Application No.

09/127,584

Examiner

Douglas W. Sergeant

Applicant(s)

RAYNAUD ET AL.

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1. ☒ This communication is responsive to amendment filed 11/13/00.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☐ The drawings filed on \_\_\_\_\_ are acceptable.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the CERTIFIED copies of the priority documents have been
  1. ☐ received.
  2. ☐ received in Application No. (Series Code / Serial Number). \_\_\_\_\_
  3. ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE **THREE MONTHS** FROM THE "DATE MAILED" of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. ☐ Applicant MUST submit NEW FORMAL DRAWINGS
  - (a) ☐ because the originally filed drawings were declared by applicant to be informal.
  - (b) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_
  - (c) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the examiner.
  - (d) ☐ including changes required by the attached Examiner's Amendment / Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

## Attachment(s)

- |                                                                                                        |                                                                                     |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)                                        | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____               | 6 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|                                                                                                        | 9 <input type="checkbox"/> Other                                                    |

KEVIN J. TESKA  
SUPERVISORY  
PATENT EXAMINER

Art Unit: 2123

1. Claims 1-33 have been examined in this application.
2. Amendment filed 11/13/00 will be entered.

***Allowable Subject Matter***

3. Claims 1-33 allowed.
4. The following is an examiner's statement of reasons for allowance:

The current invention allows for the insertion of instrumentation logic which executes to function as a simulation breakpoint to be applied to gate-level circuit simulation. This is done by inserting instrumentation points into the Register Transfer Level (RTL) design, which can then be synthesized to the gate-level description. The closest prior art, the Matisse system (as taught by the prior cited Chen and Kucukcakar) teaches a similar process applied to a higher level of the design process, specifically allowing source level debugging on the RTL design that has been synthesized from the HDL design description. The current invention extends this capability to a lower level in the design process, namely in the gate-level description that has been synthesized from the RTL description. This advantageously allows for the use of simulation breakpoints implemented by inserting "instrumentation logic into the RTL description (as indicated in the specification pg. 42, line 24) in a gate-level circuit simulation. This provides a distinct advance over the prior art methods of matching input vectors to output vectors and attempting to back out the fault based only on these vectors.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

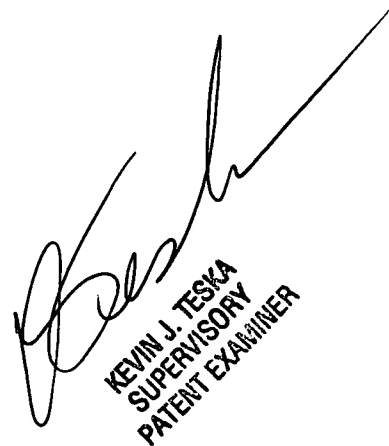
accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W. Sergent whose telephone number is (703)306-5448. The examiner can normally be reached on M-F (6:30 - 4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (703)305-9704. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-1396 for regular communications and (703)308-1396 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-5140.

Doug Sergent/DS  
December 7, 2000



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SUPERVISORY  
PATENT EXAMINER